SANTA CRUZ BIOTECHNOLOGY, INC.

V-ATPase G2 (H-80): sc-20949

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Vacuolar-type H^+-ATPase (V-ATPase) is a multisubunit enzyme responsible for acidification of eukaryotic intracellular organelles. V-ATPases pump protons against an electrochemical gradient, while F-ATPases reverse the process, thereby synthesizing ATP. A peripheral V_1 domain, which is responsible for ATP hydrolysis, and an integral V_0 domain, which is responsible for proton translocation, compose V-ATPase. Nine subunits (A-H) make up the V_1 domain and five subunits (a, d, c, c' and c'') make up the V_0 domain. Like F-ATPase, V-ATPase most likely operates through a rotary mechanism. In yeast, the V-ATPase G subunit is a soluble subunit that shares homology with the F-ATPase G subunit and may be part of a connection stalk between V_1 and V_0. The G_2 isoform of the G subunit associates with the pore-forming A1C-subunit of L-type calcium channel and aids in proper membrane targeting of the calcium channel. The genes encoding the G_1 and G_2 V-ATPase subunits map to chromosomes 9q33.1 and 6p21.33, respectively.

CHROMOSOMAL LOCATION

Genetic locus: ATP6V1G2 (human) mapping to 6p21.33; Atp6v1g2 (mouse) mapping to 17 B1.

SOURCE

V-ATPase G2 (H-80) is a rabbit polyclonal antibody raised against amino acids 39-118 of V-ATPase G2 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

V-ATPase G2 (H-80) is recommended for detection of V-ATPase G2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

V-ATPase G2 (H-80) is also recommended for detection of V-ATPase G2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for V-ATPase G2 siRNA (h): sc-36799, V-ATPase G2 siRNA (m): sc-36800, V-ATPase G2 shRNA Plasmid (h): sc-36799-SH, V-ATPase G2 shRNA Plasmid (m): sc-36800-SH, V-ATPase G2 shRNA (h) Lentiviral Particles: sc-36799-V and V-ATPase G2 shRNA (m) Lentiviral Particles: sc-36800-V.

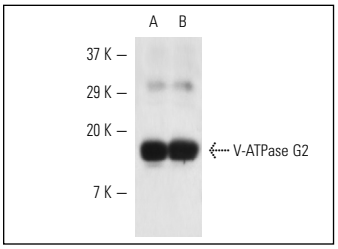
Molecular Weight of V-ATPase G2: 18 kDa.

Positive Controls: Mouse brain extract: sc-2253, rat brain extract: sc-2392 or mouse cerebellum extract: sc-2403.

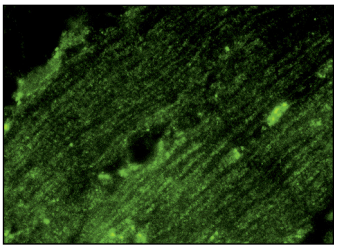
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



V-ATPase G2 (H-80): sc-20949. Western blot analysis of V-ATPase G2 expression in rat brain (**A**) and mouse brain (**B**) tissue extracts.



V-ATPase G2 (H-80): sc-20949. Immunofluorescence staining of normal mouse heart frozen section showing cytoplasmic staining.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.